

In re Application of Tummala et al.,  
S.N. 10/713,996  
Filed: 11/14/2003  
Attorney Docket No. QA0265

reaction zone and in flow communication with the at least one reactor discharge tube. In the case of the invention, the solids collection system is not contained within the reaction vessel/zone, as is the case in the Sisler apparatus.

Nor is the process of reaction as is claimed taught by Sisler. The claimed process (see independent claims 1 and 15) specifies that at least one of the feed gases is heated prior to being fed to the reaction zone, and that after the at least two feed gases are reacted in the reaction zone to form a product gas, the product gas is flowed via at least one reactor discharge tube away from the reaction zone to at least one solids collection system that is positioned downstream from it and in flow communication with the at least one reactor discharge tube.

The Action also cites column 3, lines 5-13 of Sisler to support the assertion that the reference teaches it is desirable to remove the ammonium chloride immediately from the reaction zone. Sisler mentions that it is important to remove the ammonium chloride immediately from the reaction zone, either by using electrostatic precipitators or scrapers for removing solid material from the chlorine inlet and reactor walls. Column 3, lines 8-13. The patent goes on to elaborate the use of glass wool, presumably as a precipitator. Column 3, line 54. However, the glass wool/precipitator is stuffed into the reaction tube. *Id.* More specifically, according to the description in Sisler, the entire chloramine formation reaction takes place in the glass reaction tube that is stuffed with glass wool for collection of the solids, and the center tube is fitted with a glass rod to remove plugs of ammonium chloride from the chlorine inlet. Column 3, lines 51-56. There is no mention, however, of moving the product gas to at least one solids collection system that is away from the reaction zone.

Based on the foregoing discussion, Applicants submit that each and every element of claims 1, 5 and 10 is not taught or disclosed by Sisler, therefore there can be no anticipation of any of these claims. Accordingly, this rejection under §102 should be withdrawn and such action is respectfully requested.

Claims 2-4, 6-9 and 11-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sisler. The Action states that it would be *prima facie* obvious to employ a borosilicate glass reactor in the process and apparatus of Sisler, since Sisler discloses at column 3, line 40 that a glass tube reactor was employed, and that it would be obvious to preheat the reactants to bring them to reaction temperature. Applicants respectfully traverse.

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Dependent claims 2-4 and 6-9 depend from independent claim 1, and dependent claims 11-24 depend from claim 10. As established in the preceding discussion, Sisler does not disclose the inventive embodiments represented by either of these present claims. Neither does that reference suggest the invention as is claimed in claims 1 and 10. There is no source of motivation disclosed in the reference to show why one of ordinary skill in the art would modify the single reaction vessel packed with glass wool, as is taught in Sisler, to provide a reactor comprising a reaction zone that is in flow communication with at least one solids collection system that is separately positioned from the reaction zone, as is presently claimed. Similarly, there is nothing within the four corners of Sisler, to show why one of ordinary skill in the art would be led to modify the Sisler process by preheating any of the feed gases to minimize the formation of ammonium chloride deposits within the reaction zone. Rather, Sisler does not contemplate minimizing formation of such deposits, only removing them as quickly as possible via the glass wool packing and scrapers that are within the reaction tube. As such, the cited reference does not recognize the technical feasibility, importance or potential value of moving the product gas to a separately positioned solids collection system to provide for removal of the ammonium chloride solids. Accordingly, there is nothing in this reference that teaches or fairly suggests the claimed invention, and the rejection under §103(a) should be withdrawn.

In light of the foregoing amendments and remarks, Applicants submit that all outstanding rejections have been met and overcome, and therefore withdrawal and allowance of the pending claims is requested.

If a direct personal communication might advance the prosecution of this application, the Examiner is invited to contact Applicants' undersigned representative at the telephone number below.

**FEE AUTHORIZATION**

The Commissioner is authorized to charge any fee required for entry of this amendment, or credit any overpayment thereof to the assignee's Deposit Account No. 19-3880.

Respectfully submitted,

  
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